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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,510	09/23/2003	Kovsky T. J. Tsai	COR 134	2581

7590 05/02/2006

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EXAMINER

CHASE, SHELLY A

ART UNIT

PAPER NUMBER

2133

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/667,510	<b>Applicant(s)</b> TSAI ET AL.	
	<b>Examiner</b> Shelly A. Chase	<b>Art Unit</b> 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-23, 25-28 and 30-33 is/are rejected.
- 7) ☒ Claim(s) 7, 12, 24 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SHELLY CHASE**  
**PRIMARY EXAMINER**

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. Claims 1 to 33 are presented for examination.

### *Claim Objections*

2. Claims 1 and 18 are objected to because of the following informalities: please change "an LFSR" to ---a LFSR---.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 to 6, 8, 13, 17 to 23, 25 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Maa (USP 5878057).

Claims 1 and 18:

**Maa** substantially teaches the claimed invention. Maa teaches a highly parallel cyclic redundancy code generator comprising: a microprocessor pre-computing a remainder value that is derived by using a generator polynomial  $g(x)$  and then a lookup table stores the computed value (see col. 2, lines 22 to 30 and col. 3, lines 24 to 28). Maa also teaches that a data message signal is arranged in a register (22) according to

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an input XOR gate (26) (see col. 4, lines 3 to 12). Maa teaches that the input data is arranged in the p-bits section of the register and that the data in the p-bits section is passed to an XOR tree (14) with a corresponding reminder value from the lookup table to produce a partial CRC value (see col. 4, lines 10 to 18). Maa further teaches that CRC computation utilizes a LFSR.

As per claims **2** and **19**, Maa teaches that the p most significant bit (MSB) controls the register (see col. 3, lines 55 to 60); interpreted as “wherein the LFSR is configured for the message to be shifted thereinto from a MSB side.”

As per claims **3** and **20**, Maa teaches that the K bit portion of the register (22) loads data form the least significant bit side (see col. 4, lines 15 to 18).

As per claims **4** to **6** and **21** to **23**, Maa teaches that the CRC is generated for 8 bits (“byte-wise form”) or 32 bits (“word-wise form”) or 64 bits (doubleword-wise form”) in parallel (see col. 1, lines 34 to 38 and col. 4, lines 26 to 30).

As per claims **8**, **13**, **25** and **30**, Maa teaches that the register is initialized to zero (see col. 1, lines 52 to 55 and col. 3, lines 35 to 38).

As per claim **17**, Maa teaches that the CRC value is produce from an iterative XOR process receiving the data outputted form the register and the remainder value outputted from a lookup table (see col. 3, lines 55 to 65).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **9 to 10, 14 to 16, 26 to 28 and 31 to 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Maa (USP 5878057) in view of Morsberger (USP 6560746 B1).

As per claims 9 to 11, Maa does not specifically teach identifying a length type of the message and determining the specific value in accordance with the length type; however Morsberger in an analogous art teaches a parallel CRC generation circuit comprising computing a CRC code by selecting a value for N wherein N is the length (see col. 5, lines 16 to 26). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the parallel CRC circuit of Maa to include selecting a length type as taught by Morsberger since Morsberger teaches that increasing speed in computing CRC is an advantage when selecting the length type (see col. 4, lines 1 to 25). This modification would have been obvious because a person of ordinary skill in the art would have been motivated to employ a method for increasing the computation speed for CRC's as taught by Morsberger.

As to the further limitation of the claims, Maa teaches that if a message is modified the CRC value may be updated producing a new CRC values (see col. 5, lines 20 et seq.). Morsberger teaches that eliminating redundancies by selecting the CRC to be generated and evaluating the matrix (see col. 7, lines 1 to 15).

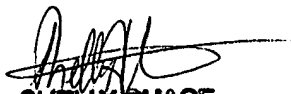
Dependent claims 14 to 16, 26 to 28 and 31 to 33, all recite similar claim limitations as claims 9 to 11 and are rejected under the same rationale applied to claims 9 to 11.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shelly A. Chase whose telephone number is 571-272-3816. The examiner can normally be reached on Mon-Thur from 8:00 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SHELLY CHASE**  
**PRIMARY EXAMINER**